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In the Supreme Court of the United States

OCTOBER TERM, 1975

No. 75-567

STATE OF OREGON, Acting by and through the State Land Board,

Petitioner,

v.

CORVALLIS SAND AND GRAVEL COMPANY, an Oregon corporation,

Respondent.

On Writ of Certiorari to the Supreme Court of the State of Oregon

BRIEF FOR PETITIONER

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In a typical situation of a navigable river flowing through two channels, where the smaller of the two channels after 20 years of erosive flooding is carrying the major portion of the river's flow, and the other channel eventually becomes unusable, does federal law deprive the public of title to the beds of both channels?

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BRIEF FOR PETITIONER

OPINIONS BELOW

The trial court's memorandum opinion is reprinted in the Appendix at 167.

The opinion of the Oregon Court of Appeals affirming in part and reversing in part the judgment of the trial court is reported at 18 Or App 524, 526 P2d 469 (1974) and is reprinted in the Appendix at 195.

The opinion of the Oregon Supreme Court is reported at 75 Adv Sh 2068, 272 Or 545, 536 P2d 517 (1975) and is reprinted in the Appendix at 233.

The clarifying opinion of the Oregon Supreme Court denying the Petitions for Rehearing is reported at 75 Adv Sh 2562, 272 Or 545, —, 538 P2d 70 (1975) and is reprinted in the Appendix at 240.

JURISDICTION

On June 12, 1975, the Oregon Supreme Court entered its opinion affirming the judgment of the Oregon Court of Appeals as modified. (A 233).

On July 17, 1975, the Oregon Supreme Court, in a clarifying opinion, denied timely petitions for rehearing filed by both parties. (A 240).

This petition for a writ of certiorari was filed on October 14, 1975, which was within 90 days of that date, pursuant to Rule 22(3) and the provisions of 28 USC §1257(3) under which the jurisdiction of this Court is invoked.

QUESTION PRESENTED

In a typical situation of a navigable river flowing through two channels, where the smaller of the two channels after 20 years of erosive flooding is carrying the major portion of the river's flow, and the other channel eventually becomes unusable, does federal law deprive the public of title to the beds of both channels?

STATUTE INVOLVED

11 Stat 383 provides that:

> "That Oregon be, and she is hereby, received into the Union on an Equal footing with the other States in all respects whatever, with the following boundaries: . . ."

STATEMENT OF THE CASE

A. General Background

The Willamette River is a navigable river within the state of Oregon. In 1859, Oregon was admitted into the Union "on an [e]qual footing with the other states in all respects whatever . . . ." 11 Stat 383. By virtue of that statute which incorporated the equal footing doctrine, Oregon, acquired title to those lands under navigable waters within the state. *See Bonelli Cattle Co. v. Arizona,* 414 US 313, 318 (1973); *Shively v. Bowlby,* 152 US 1, 26 (1893); *Mumford v. Wardwell,* 73 US 423, 436 (6 Wall 1867); *Pollard's Lessee v. Hagan,* 44 US 212, 221, 223, 228-229, 230 (3 How 1845); *Martin v. Waddell,* 41 US 367, 410 (16 Pet. 1842). Oregon thus acquired at statehood the title to the beds of all rivers then navigable within its boundaries. *United States v. Oregon,* 295 US 1, 14 (1935).

Under Oregon law, the state owns the beds of navigable rivers between high water marks and the upland or abutting riparian owners have no title to the beds of such river unless and until the state is shown to have parted with title as by statutory grant or deed. *State v. Corvallis Sand & Gravel Co.,* 18 Or App 524, 526 P2d 469, 479-480 (1974), S Ct *aff'd* 75 Adv Sh 2068, 272 Or 545, 536 P2d 517 (1975); *State v. McVey,* 168 Or 337, 345-348, 121 P2d 461, 464-466, 123 P2d 181 (1942); *Bowlby v. Shively,* 22 Or 410, 415-416, 419, 427-428 (1892), *aff'd sub nom Shively v. Bowlby,* 152 US at 52, 56-58 (1893).

This case arises because the state, by amended complaint (A 5), brought ejectment to recover from the Corvallis Sand and Gravel Co. (corporation) the possession of various parcels comprising the present riverbed of the Willamette River, including parcels comprising "Fischer Cut" to which the state claimed ownership by virtue of its sovereignty. Fischer Cut is now the main channel of the river, but prior to 1910 was a subsidiary channel across the neck of Fischer Island. (A 40 and 41).

With exceptions not here material, the trial court ruled in favor of the state on all the parcels claimed except for parcels 2A, 2B and 2C and a portion of parcel 3 which the trial court held were part of Fischer Cut and avulsive and, therefore, belonged to the corporation. (A 170-172).

Both parties appealed. The Oregon Court of Appeals affirmed. (A 195). On review, the Oregon Supreme Court affirmed the Court of Appeals on the issue of avulsion but modified that court's holding as to the length of the avulsion and as to damages. (A 233, 240).

B. **Facts Material to the Question Presented**

1. *Characteristics of the River.*

The Willamette River is a typical meandering river subject to frequent changes in course. (Tr 1044-1045). It was said that "the Willamette above Corvallis is cut up into so many useless sloughs and at each liable to undergo very marked and frequent changes, it would be impossible to confine its waters in one main and per-

manent bed. New channels are not infrequently cut out and old ones have been left nearly bare; the latter after being closed for years are again reopened." (Ex 115 at 765; A 149, Tr 66, 413). Contributing to its instability were banks of a "loose sandy soil or gravel" which were "constantly caving and precipitating trees into the river" (Ex 112-A at 5; A 115, Tr 291, 292, 325) with the result that natural wingdams formed, new islands and channels were constantly being created and channel changes occurred at some locations "year to year." (Ex 94-A at 3-5, A 86-90, Tr 291, 292, 325; Ex 114 at 907, A 121-122, Tr 65-66, 412-413; Ex 115 at 765-766, A 149-150, Tr 65-66, 412-413; Ex 115 at 655, A 161-162, Tr 66, 413, 521-522). Frequent changes of course also occurred in the Corvallis area which was a typical reach of the river. (Ex 94-A at 3-5, A 86-90, Tr 291, 292, 325, 521-522, 779). A factor in this process was recurrent winter flooding (Ex 114-C at 2848, A 128-129, Tr 292, 325) caused by a rainy season occurring between October and June (Ex 115 at 654, A 160, Tr 65-66, 412-413) with major floods occurring in 1861, 1890, 1893, 1894, 1901, 1903, 1907 and 1909. (Ex 71 at 8-9, 162, 174, 202, 203, A 69-78, Tr 109, 111; Ex 94-A at 7, 9, A 92, 93-94, Tr 291, 292, 325, 434). In the Corvallis area banks under 20 feet were covered by high water and during extreme high water the whole valley was overflowed. (Ex 94-A at 2, A 85-86, Tr 291, 292, 325; Ex 112-A at 5, A 115, Tr 291, 292, 325; Ex 114-C at 2848, A 128, Tr 292, 325, 394, 396, 1032-1035).

2. *Formation of Fischer Cut.*

In 1853 and thereafter, the Willamette River at

Corvallis coursed around a peninsula-like formation, or oxbow, which later became Fischer Island. (Ex 59, A 38, Tr 216, 217). Exhibit 59 itself shows evidence of minor erosive channels or gullies near the neck of the oxbow. By 1887, the erosive channels or gullies were more pronounced. (Ex 51, A 39, Tr 221, 222).

In 1890, an overflow channel about 3200 feet in length was discovered flowing across the neck of the peninsula. (Ex 98-A at 2, A 102, Tr 291, 292, 325; Ex 62, A 40, Tr 223, 224). Water commenced to run in this channel at the five-foot stage. (Ex 114-C at 2849, A 132, Tr 225, 292, 325). It was noted in an early official report in 1890 that if the overflow channel "were cleaned of the drift-wood and willow growth, so as to give *the high water a free channel, I think that the water would enlarge it very much and probably change the course of the river of its own accord as it is a direct chute and the material of a sandy nature.*" (Ex 98-A at 2, A 102, Tr 291, 292, 325) (emphasis supplied).

This report was followed by another in 1892 which noted that at Corvallis the valley bottom consisted of three channels for low water discharge and also "sloughs, high water channels and old riverbeds, that serve as outlets for the water at medium and ordinary high water stages." (Ex 114-C at 2848, A 128, Tr 292, 325; 299-300). The report noted the sandy nature of the chute, its natural enlargeability by the river if it were cleared of debris and that "in time the low water flow of the river may take this course." (Ex 114-C at 2849, A 132-133, Tr 292, 325; 304).

The effect of the floods of 1893, 1894, 1901 and 1903 and normal winter flooding was to deepen and enlarge the overflow channel so that by 1906 an estimated one-fourth of the river was flowing through this channel[1] at only the four-foot stage. (Ex 110-A, A 103, 104, Tr 231; 225). Also, the banks of the overflow channel were "caving" eastward (to the right) toward Fischer Island away from the firm left bank, the "Seavy" side. (Ex 110-A at 2, A 104, Tr 231; 387, 390, 404, 514, 702-703).

Fischer Island and Fischer Cut were owned by the Fischer family. (A 52-53, Tr 398, 399). Fred Fischer, their son, testified no one cleared the overflow channel of the trees and debris—natural winter flooding did this (A 58, Tr 404). Fischer testified:

"Q. I see. *Did this gully enlarge during the years?*

"A. O, yes, it kept going in all the time now.

"Q. When you say kept going in—

"A. Going, going east.

"Q. *You mean moving toward Fischer Island?*

"A. *Yes, taking soil away from us.*

"Q. I see.

"A. Probably as much as, oh, that area, *I should judge we lost through that Fischer Cut probably 60 acres.*

"Q. You mean the water eroded this away?

"A. *Yeah, in time, or a period of five years anyway.*

"Q. I see.

"A. *Before it broke through* and it kept gradually—gradually—and finally the steam boat used to

[1] The trial court found this as a fact. (A 181).

go around here." (A 48, Tr 394-395). *See also* A 57, Tr 403 (emphasis supplied)[2]

Following further major floods in February 1907 and November 1909 (Ex 71 at 162, 174, A 76, 78, Tr 109, 111; 1032-1033, 1034, 1035), witnesses viewing the area in 1910 or 1911 observed the "main body of the river" flowing in the Fischer Cut area (Tr 879-881, 939-940) while the river still ran "quite a lot" around the old channel (Tr 880, 939-940), which eventually dried up. (*Compare*, Ex 3, 1969 aerial photograph, Tr 332; *with* Ex 15, 1936 aerial photograph, Tr 246). A United States Geological Survey Map of 1911-1913 shows the new configuration of the river after the change. (Ex 54 and 257, A 41, Tr 236, 1088, 1089).

C. Manner in Which the Federal Question Was Raised

In its amended ejectment complaint (A 5), the state alleged the parcels comprising Fischer Cut were part of the riverbed and owned by it by virtue of its sovereignty. In its testimony the state asserted that Fischer Cut was formed by erosion and was not avulsive. (Tr 296, 514-515). In its briefs in the trial court the state asserted that what occurred at Fischer Cut was a process of erosion and submergence, not avulsion and

[2] The Oregon Supreme Court interpreted Fischer's testimony (A 42-59, Tr 389-405) as failing "to explain whether the erosion he referred to occurred before or after the 1909 flood" 536 P2d at 519. The testimony and exhibits referred to above render this interpretation incorrect particularly because the major erosive floods occurred prior to 1910 without another major flood until 1923. *See* US Army Corps of Engineers, Flood Plain Information, Corvallis and Philomath, Oregon at 2 (March 1971). *See* Appendix A to this brief. *See also* Tr 434, 1033-1035. Also, the banks of the Cut were "caving" in January of 1906, almost four years before the final change. (Ex 110-A at 2, A 104, Tr 231).

that an avulsion did not arise where there was enlargement of an existing channel.

The trial court, however, while finding that Fischer Cut had existed as early as 1890, and while finding that it carried one-fourth of the river's volume in January of 1906 (A 180-181), nevertheless found that

> "6. As the result of a flood of November 25, 1909, the river suddenly and with great force and violence *converted Fischer Cut into the main channel of the river.*
>
> "7. The change was not gradual and perceptive *but was a rapid and violent change of course, avulsive in character* and constituted an avulsion." (A 181) (emphasis supplied).

The state in its opening appeal brief in the Oregon Court of Appeals stated the issues to be:

> "1. Where the smaller of two channels of a navigable river carries one-fourth of the river's flow, does the river's sudden enlargement and conversion of the smaller channel, so that it becomes the channel carrying the larger volume constitute an avulsion?
>
> "2. Was there any evidence before the trial court from which the trial court could have concluded that the enlargement 'Fischer Cut' into the river's main channel was sudden and avulsive?"

The state then assigned as error the trial court's award of title to the disputed area to the corporation (App Br 2, 3, 26, 34).

The state, both in its briefs in the Court of Appeals and in its petition for review to the Oregon Supreme Court, argued that the changes that occurred at Fischer Cut were ordinary and usual, were but the culmination of a 20-year process of continuous erosion and submerg-

ence and that the sudden enlargement of that channel did not constitute an avulsion (App Br 23-25, 26-43; App Rep Br 1-22; App Pet Rev 1-31).

Nevertheless the Court of Appeals found "evidence in the record to support" the trial court's conclusion of an avulsion, 526 P2d at 476 (A 206) and the Supreme Court agreed, 536 P2d at 518 (A 234). The "evidence" in the record consisted of testimony by one witness as to "comment or talk about the river having broken through," (Tr 939), testimony by another witness over objection that "a friend of mine told me that he could step across the creek there in 1907 . . . and in 1909 he said the water broke through and made the river there" (Tr 866), testimony by Fred Fischer as to the river's eroding Fischer Cut eastward toward the right toward Fischer Island "before it broke through," (A 48, Tr 394-395) and testimony by the corporation's expert that "an avulsive change of channel took place rather than a progressive breaking down of the land in the vicinity of what is now called Fischer Island." (Tr 1091).

None of this "evidence" however, purported to explain or contradict the existence of the channel (Fischer Cut) in 1890 long before the so-called breakthrough.

ARGUMENT

I

THE IMMENSELY SIGNIFICANT VALUES INHERENT IN OREGON'S NAVIGABLE WATERWAYS, BOTH TANGIBLE AND INTANGIBLE, REQUIRE THAT FULL AND COMPLETE OWNERSHIP OF SUCH WATERWAYS BE IN THE PUBLIC

In *Martin v. Waddell, supra,* the Court described the rights that the original 13 states acquired in navigable waters within their boundaries.

> "For when the revolution took place, the people of each state became themselves sovereign; and in that character *hold the absolute right to all their navigable waters and the soils under them for their own common use,* subject only to the rights since surrendered by the constitution to the general government. . . ." 41 US at 410 (emphasis supplied)

Except for the right of Congress under the constitution to regulate commerce among the several states and between foreign nations (US Const, art I, §8) the soils under navigable waters were not granted by the Constitution to the United States, but were reserved to the several states. *Pollard's Lessee v. Hagan, supra,* 44 US at 230; *Mumford v. Wardwell, supra,* 73 US at 436. Thus states admitted to the Union since the revolution acquired from the United States, by virtue of the equal footing doctrine incorporated in their admission acts, full title to the navigable waters and the soils under them. *Shively v. Bowlby, supra* 152 US at 26, 57-58; *Bonelli Cattle Co. v. Arizona, supra,* 414 US at 318.

See, for example, 11 Stat 383 quoted at 3, *post.*

The title the states thus acquired was

> ". . . held by the State, not only subject to, but in some sense in trust for, the enjoyment of certain public rights, among which is the common liberty of taking fish, as well shellfish as floating fish. . . . [citations omitted]. *The State holds the propriety of this soil* for the conservation of the public rights of fishery thereon, and may regulate the modes of that enjoyment so as to prevent the destruction of that fishery. In other words, it may forbid all such acts as would render the public right less valuable, or destroy it altogether. *This power results from the ownership of the soil, from the legislative jurisdiction of the State over it, and from its duty to preserve unimpaired those public uses for which the soil is held. . . . [citations omitted]*" *Smith v. Maryland,* 59 US 71, 74-75 (18 How 1855). (emphasis supplied)

It was also a title

> ". . . different in character from that which the State holds in lands intended for sale. It is different from the title which the United States holds in the public lands which are open to preemption and sale. *It is a title held in trust for the people of the State that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein* freed from the obstruction or interference of private parties. . . ." *Illinois Central Railroad v. Illinois,* 146 US 387, 452 (1892). (emphasis supplied).

Although these early cases describe the states' title in classic public trust terminology the *Smith* case refers to the state's "duty to preserve unimpaired those public uses for which the soil is held." *Smith v. Maryland, supra* 59 US at 75. The scope of those uses has properly never been specifically delimited and is a flexible concept

as indicated in *Marks v. Whitney,* 98 Cal Rptr 790, 491 P2d 374 (1971) where the California Supreme Court declared:

> "Public trust easements are traditionally defined in terms of navigation, commerce and fisheries. They have been held to include the right to fish, hunt, bathe, swim, to use for boating and general recreation purposes the navigable waters of the state, and to use the bottom of the navigable waters for anchoring, standing or other purposes. [citations omitted]. The public has the same rights in and to tidelands.
>
> "The *public uses to which tidelands are subject are sufficiently flexible to encompass changing public needs. In administering the trust the state is not burdened with an outmoded classification favoring one mode of utilization over another.* [citation omitted]. There is a growing public recognition that one of the most important public uses of the tidelands—a use encompassed within the tidelands trust—*is the preservation of those lands in their natural state,* so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area. *It is not necessary to here define precisely all the public uses which encumber tidelands.*" *Id,* at 380 (emphasis supplied).

That the public trust is broader than navigation and fishery also appears to be recognized by *Bonelli* which declared that "[t]he extent of the State's interest [in the lands beneath its navigable waterways] should not be narrowly construed because it is denominated a navigational purpose." *Bonelli, supra* 414 US at 323, n 15. Thus, "full public enjoyment" means more than the right of unrestricted passage over and fishing in navigable waterways. It means full and complete use by the public

of the waters *and underlying bed* in all the ways that can conduce to the greatest public good, unrestricted and unobstructed by assertions of private ownership or right.

The Willamette River is a perfect example. Its resources, both tangible and intangible are of immense value and significance to the people of this state. Its navigable portion is some two hundred miles long and perhaps three to four hundred feet in width on the average as it meanders through the Willamette Valley. A scenic waterway of perhaps eight to ten thousand acres in area, it is deemed so important and vital to the people of the state that the legislature enacted special legislation popularly known as the "Greenway Law" to protect it. ORS 390.310 to 390.368. The stated purposes of this legislation define many of the public values inherent in a great navigable waterway, i.e., scenic and recreational values, including the acquisition of parks, preservation of historical sites, structures, facilities and objects and utilization of subsurface mineral aggregate deposits. ORS 390.314, 390.318(3).

Oregon's navigable waterways of course present tremendous opportunities for recreation such as vast areas of scenic open space for human enrichment through boating, fishing, sailing, swimming, wading and the like. But, such waterways also present tremendous commercial[2] opportunities such as the transportation and

[2] This Court in *Wear v. Kansas*, 245 US 154 (1917) upheld the right of the state to exact a charge from those who take sand from the bed of a navigable stream. In our answering brief on the merits in case no. 75-577, we discuss at greater length the state's proprietary interest in its navigable riverbeds and its right to exact a charge on behalf of the public from those who use the bed for private purposes.

storage of logs, the extraction of sand and gravel (ORS 274.530), the extraction of hard minerals (ORS 274.615), the extraction of oils, gas and sulphur (ORS 274.710), the harvesting of kelp and seaweed (ORS 274.885) as well as the sale or lease of submerged and submersible lands for such general purposes as are deemed by the State Land Board to conduce to the greatest public good. Or Const, art VIII, §5, ORS 273.031, 273.041, 274.040, 274.915.[3]

Considering the multitude of purposes and values inherent in Oregon's navigable waterways, it becomes clear that only if the state is the full and complete owner of those waterways and the underlying beds can it *guarantee* that the public shall have *full* enjoyment of all those resources and values. It is perhaps for this reason that a presumption is indulged in against the separation from sovereignty of the state's dominion over navigable waters and its property in the soil under them. *United*

[3] Article VIII, Section 5 of the Oregon Constitution provides:

"(1) The Governor, Secretary of State and State Treasurer shall constitute a State Land Board for the disposition and management of . . . other lands owned by this state that are placed under their jurisdiction by law.

"(2) The board shall manage lands under its jurisdiction with the object of obtaining the greatest benefit for the people of this state, consistent with the consideration of this resource under sound techniques of land management."

ORS 273.031 directs the board to carry out the duties prescribed by this constitutional provision. ORS 273.041 creates the Division of State Lands which through its director, officers and employes acting under the State Land Board, manages state-owned lands including lands under navigable waters.

ORS 274.025 declares that title to all lands under navigable streams and lakes in this state which has not become vested in any person is vested in the state of Oregon. ORS 274.040 and 274.915 contain the state's general leasing and sale authority for lands under navigable waters.

States v. Oregon, supra, 295 US at 14. While the state's police power is helpful to a certain extent, no one knows what the constitutional limitations upon the exercise of the police power are. The amount of costly and time-consuming litigation engendered by the exercise of the states' police power under "just compensation" issues attest to the limits of the power and demonstrates that the police power is no substitute for the management control and flexibility inherent in full ownership. Only through complete ownership can the storehouse of values inherent in these waterways be fully utilized.

II

FULL PUBLIC ENJOYMENT IN THE SENSE DEFINED ABOVE OF THE NAVIGABLE WATERCOURSES WITHIN A STATE IS NOT POSSIBLE IF A PRINCIPLE OF AVULSION IS TO BE APPLIED IN OTHER THAN VERY RARE CASES AS A LIMITED EXCEPTION TO PUBLIC OWNERSHIP.

That the public's ownership of its navigable waterways should rest or depend upon the vagaries of a jury or a court finding that an "avulsion" did or did not occur is intolerable and appears to us to be inconsistent with the principle of full state sovereignty over its navigable waterways.

In the first place, when the issue as between a riparian owner and the state is the ownership of the bed of a navigable river, to apply the doctrine of avulsion to resolve that issue is incongruous. The doctrine of avulsion is basically a constructional principle for the ascer-

tainment of the *boundary* of property which abuts on water and is appropriately applied only to fix the boundaries between two riparian owners or between a riparian owner and the river.[5] The doctrine however, should not be used to qualify state sovereignty and ownership over a navigable waterway because of the character of the movements made by the river. In other words, if the boundary issue for riparian property becomes intertwined with the issue of public ownership and control over a navigable waterway, boundary principles should give ground in the interest of full public ownership and control over the waterway. The public interest of many in the waterway is superior to the interest of a single riparian owner.

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[5] *See* Tiffany, The Law of Real Property, §§1220 at 1074-1075 (3d ed 1975):

> ". . . It appears, however, to be open to question whether there are, properly speaking, any such rules of law [concerning accretion], and whether, so far as the legal effects of such physical changes are concerned, *they are not rather the result of a general rule for the ascertainment of boundaries, a rule of construction, in effect, that if the boundary of land is determinable with reference to the sea or any body or stream of water, the boundary is presumably intended to vary as the particular physical feature referred to may vary, provided the variation is gradual.*"

Concerning avulsion, the same authority notes:

> ". . . in fixing the boundary with reference to the water or some physical feature thereof, it may be presumed that the parties in interest had in mind the probability of its gradual change with the passage of years, but did not have in mind the possibility of a sudden and perceptible change." (footnote omitted) *Id*, §1222 at 1083.

Tiffany points out that a more preferable line of distinction between sudden and perceptible change (avulsion) on the one hand, and gradual and imperceptible change on the other, is whether the identity of the land remains unchanged. *Id* at 1084. This Court appears to have adopted the same view. *Nebraska v. Iowa,* 143 US 359, 362 (1892). *See, Purvine v. Hathaway,* 238 Or 60, 63-64, 393 P2d 181 (1964) for a good state court discussion of the reasons for the distinction between accretion and avulsion as they affect boundaries.

Secondly, allowing the issue of state ownership of the state's navigable watercourses to rest on the question of proof or disproof of an avulsion can only be productive of uncertainty and of complicated litigation. As the statement of facts makes clear, the Willamette River since statehood in 1859 has been subjected to numerous and violent changes. To rest the ownership of that river on the complicated and unpredictable scenario of whether a given portion of the river today is or is not the result of "avulsive" changes, is to convert the splendid patrimony that the state acquired at statehood into a pig in the poke of litigation. The Oregon Supreme Court's struggle with the sole issue of the length and location of Fischer Cut is itself the best example we can give of how difficult this kind of litigation is. See the Oregon Supreme Court opinions in this case at 536 P2d 517 (A 233) and 538 P2d at 70 (A 240).

Finally, the necessary result of such litigation can only be a checkerboard pattern of public and private ownership in the riverbed and less than full public enjoyment of the navigable watercourse.

The clearest solution to the problem pointed out above would, in other than boundary cases, be to make the state's sovereignty and ownership of its navigable watercourses follow the river independent of the character of the changes in the river as sudden or imperceptible. *See State v. R. E. Janes Gravel Co.*, 175 SW2d 739, 741-742

(Tex Civ App 1943).[6] To adopt such a rule, however, this Court would have to modify in part the *Bonelli* rule that the state's "title to the bed of a navigable river mechanically follows the river's *gradual* changes in course." *Bonelli, supra,* 414 US at 318 (emphasis supplied). The modification would be that the public's title to the riverbed (in other than boundary situations between states) would, irrespective of whether a change in the river was gradual or sudden, mechanically follow the river in its various movements. The State of Oregon would deem this a very desirable result, because it would produce certainty in the law, would terminate the need for much litigation and would quiet title to navigable riverbeds in favor of the public interest.[7]

We assume, however, that with pertinent supporting precedent lacking this Court will choose to apply classic avulsion doctrine to riverbed ownership cases. This would perhaps be acceptable if limited to very rare and unusual cases.

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[6] This Court in part adopted this procedure in *Bonelli* in refusing to apply the state's rule of avulsion and in holding that the public's title to the river followed the river in a case of a reliction that was artificially produced. As far as Oregon is concerned, it is satisfied with the *result* of the *Bonelli* case which kept ownership of the river in the state and gave back to the riparian owner, the newly reemerged former riverbed. We assume that the principle enunciated by *Bonelli* would, as a general rule, deny to the state ownership of a formerly submerged riverbed even though the river had abandoned its former bed avulsively. This result is fine, as long as it flows from recognition by the Court that because the public's interest is where the river is, the public's ownership of the bed should follow the river as it changes.

[7] *See* footnotes 5 and 6 and accompanying text where it is noted that the avulsion concept is a principle for construing or ascertaining water-related boundaries and should not be used as a rule of law to detract from state sovereignty over and ownership of navigable watercourses and the underlying soil.

III

EVEN IF CLASSIC AVULSION PRINCIPLE IS APPLIED TO THIS CASE, THE UNDISPUTED FACTS IN THE RECORD AND FOUND BY THE TRIAL COURT NEGATE AN AVULSION BECAUSE THE CHANGES THAT OCCURRED WERE EROSIVE IN NATURE AND WERE NEITHER UNUSUAL NOR UNCHARACTERISTIC OF THE RIVER.

Notwithstanding the inappropriateness of the avulsion doctrine to determine state ownership of a navigable riverbed, if the doctrine is applied to the uncontradicted facts in the record and found by the trial court it becomes clear that there was no avulsion in this case.

These facts appear in our statement and are for the most part contained in uncontradicted official Corps of Engineers' reports. The cited testimony of the witnesses (most of the references are to the corporation's witnesses) is also uncontradicted and in harmony with the documentary evidence. The trial court's findings are also in harmony with the uncontradicted facts set out herein except that the trial court's conclusion of an avulsion which it drew from those facts is manifestly incorrect as a matter of law for two reasons.

First, where a river flows through two existing channels and eventually converts the secondary channel to the main channel there cannot be an avulsion because there is no sudden abandonment of an existing channel for a wholly new channel (an avulsion), only enlargement of the existing, secondary channel.

Second, what really happened in Fischer Cut, as the uncontradicted, recited facts make clear, was a 20-year process of erosion and submergence, the eventual result of which was that more of the river flowed through Fischer Cut than flowed through the former main channel.

The trial court held this change to be avulsive and the Oregon Court of Appeals found "evidence in the record to support this conclusion." 526 P2d at 476 (A 206). The Oregon Supreme Court agreed. 536 P2d at 518 (A 234). The state has detailed the scraps of "evidence" in the record (page 11) to which the state court must have had reference. This Court should not lend its approval to permitting such "evidence" to determine full state sovereignty and ownership over a navigable riverbed.

Moreover, if this application of the doctrine of avulsion is allowed to stand, then the principle of public ownership of navigable riverbeds enunciated by *Bonelli* has been effectively nullified. *Bonelli* declared that

> "[i]n order for the States to guarantee full public enjoyment of their navigable watercourses, it has been held that their title to the bed of a navigable river mechanically follows the river's gradual changes in course. . . ." (footnote omitted) *Bonelli, supra* 414 US at 318.

The exception to this rule arises only where ". . . 'a stream suddenly and perceptibly *abandons* its old channel' . . ." *Id*, at 327. This exception however does not include enlargement of an existing secondary channel over a 20-year period marked by erosive floods which

by the end of the period have caused a reapportionment of the percentage of the flow of the river through the two channels, the smaller channel becoming the main channel, the former main channel becoming the smaller channel but continuing to flow for a time. (Tr 880, 939-940).

To conclude that this typical series of events constitutes an avulsion is for all practical purposes to nullify the rule of public title to navigable riverbeds.

The Oregon Court of Appeals itself, however, realized that the facts of this case did not fit the principle of avulsion. It said, citing *Commissioners v. United States,* 270 F 110 (8th Cir 1920):

> "*But even if the doctrine of avulsion does not adequately fit the facts in the case at bar,* there is a middle course between the avulsion and accretion doctrines which perhaps more accurately reflects the facts presented. This is the so-called exception to the accretion rule announced in Commissioners v. United States, 270 F. 110, 113-114 (8th Cir 1920): . . ." *State v. Corvallis Sand and Gravel Co., supra,* 526 P2d at 476-477 (emphasis supplied).

Commissioners involved a boundary dispute between riparian owners on a non-navigable river which flowed in two channels around an island. Over a period of years the main channel dried up and the island and that channel became one solid mass of land. A boundary dispute arose between owners of the island and riparian owners of the dried-up channel. The court held that the boundary of the riparian owners remained in the centerline of

the old, but still visible, channel, citing the exception to the accretion rule:

> ". . . To this rule, however, *there is a well-established and rational exception.* It is that, where a river changes its main channel, not by excavating, passing over, and then filling the intervening place between its old and its new main channel, *but by flowing around this intervening land,* which [the intervening land] never becomes in the meantime its main channel, *and the change from the old to the new main channel is wrought during many years* by the gradual or occasional increase from year to year of the proportion of the waters of the river passing over the course which eventually becomes the new main channel, and the decrease from year to year of the proportion of its waters passing through the old main channel until the greater part of its waters flow through the new main channel, *the boundary line between the estates remains in the old channel* subject to such changes in that channel as are wrought by erosion or accretion while the water in it remains a running stream. [citations omitted]." 270 F at 113-114 (emphasis supplied).

The holding, while correct, did not deal with the *Bonelli* rule of movement of the public's title to the bed of a navigable river as the river changes course. If the Arkansas River had been navigable and the issue of bed ownership by the public had also been before the court, *Commissioners* could still have ruled that the public had title to the new main channel's bed even though for boundary purposes the former main channel still served as the boundary between the two riparian owners.

Nevertheless, the Oregon Court of Appeals relied on this case saying:

> "While the court treated this as a form of accretion, the result is the same as avulsion in that the

boundary line was found not moved to the new channel but rather remained in the old main channel. . . .

"*Since the rule of Commissioners yields the same outcome as the avulsive theory, the same result would apply as to the title of the newly submerged lands, namely, that it remains in the former owner and does not pass to the state.* . . ." 526 P2d at 477 (emphasis supplied).

The Oregon Supreme Court agreed. 536 P2d at 518. Both courts confused the *Commissioners'* issue of locating the boundary between two riparian owners in a two-channel situation with the issue in the present case which is whether the public's title to the riverbed should follow the river as it flows through a secondary channel, which, over a period of time marked by a typical series of erosive floods becomes the main channel.

The real issue that arises from such misapplication of federal law is whether the public has title to the beds of navigable rivers. All navigable rivers are meandering. (Tr 757, 1044-1045). In the 120 years since Oregon's statehood, the Willamette River has undergone so many changes of course throughout its 200-mile length that to say this typical change was avulsive is to say in effect that the bed of the river as it presently flows, or major portions of such bed, does not belong to the state. Thus the decision means uncertainty as to title, a checkerboard of public and private ownership in the existing riverbeds, uncertainty as to the extent of those ownerships and massive, expensive and complicated litigation to establish title. Moreover, because of the *Bonelli* doctrine that the state's title is to the "[r]iverbed as a bed" it would seem that the state no longer has title to formerly submerged

and submersible lands which the river has abandoned because of such "avulsive" changes. *Bonelli, supra,* 414 US at 322, 328. Thus the state would own neither the old nor the new bed if *Bonelli* means what it seems to say and the Oregon court's misapplication of *Bonelli* is allowed to stand.

If this Court determines that it will deal with the question of public ownership of a navigable riverbed in terms of whether or not an avulsion occurred, then the Court must drastically limit the situations in which avulsion, as distinct from erosion, can be found to have occurred.⊙ In making the distinction between erosion and avulsion the Court must look to the characteristics of the river in question and determine whether the change was characteristic of the river, relatively common and therefore foreseeable (erosive or non-avulsive) or, whether the change was uncharacteristic, unusual and therefore unforeseeable (avulsive). *See, Philadelphia Co. v. Stimson,* 233 US 605 (1912); *Arkansas v. Tennessee,* 246 US 158, 173 (1918); *Jefferis v. East Omaha Land Co.,* 134 US 178, 190 (1890); *State ex rel Comrs. of Land Office v. Warden,* 200 Okla 613, 198 P2d 402 (1948); *Hancock v. Moore,* 135 Tex 619, 146 SW2d 369, 370-371 (1941); *Wood v. McAlpine,* 85 Kan 657, 118 P 1060, 1065

⊙ By definition, an avulsion should be defined so as to exclude the two-channel situation when what was once an existing secondary channel becomes the main channel over a period of time, even though the final event completing the process may be sudden. The reasons: there is no change of channel and creation of a new channel; only enlargement of an existing channel. Moreover, the facts of nature inevitably make this truly a long-term process rather than a sudden event. *Commissioners v. United States, supra.*

(1911); *Nebraska v. Iowa, supra,* 143 US at 368-370 (1892). In *Wood v. McAlpine, supra,* the court said:

> ". . . In view of the conditions shown however, the jury should have been given to understand that, *considering the character of the bank, and the characteristics of the stream,* including the testimony as to its habit of 'eating under,' and its effect, they must, to find avulsion determine from all the evidence that the destruction was sudden, rapid, visible, violent, of substantial amount, *and in a manner unusual along the Missouri river,* . . ." (emphasis supplied).

In accordance with this approach, violent and rapid changes in the Missouri, Mississippi, Rio Grande and Red Rivers have been treated as accretive and erosive rather than avulsive. This is because such changes are typical rather than unusual. *Wood v. McAlpine, Id,* at 1064; *Jefferis v. East Omaha Land Co., supra* 134 US at 190; *Nebraska v. Iowa, supra* 143 US at 369-370; *Denny v. Cotton,* 3 Tex Civ App 634, 22 SW 122 (1893); *Oklahoma v. Texas,* 260 US 606, 636-638 (1923). This element of the definition in effect could provide the policy basis for determining when a riparian owner should bear the loss of a change in the river because the change was usual and foreseeable, or the public should bear the loss of the change because the change was unusual and unforeseeable.

As formulated, the proposed definition is not only consistent with the federal cases, but it provides a basis for greater certainty in the law without the necessity of

complicated litigation. Avulsions must be limited to the rare and cataclysmic events that they are supposed to be. *See Pannell v. Earls,* 252 Ark 385, 483 SW2d 440, 442 (1972).

CONCLUSION

For the reasons stated the collective judgments of the Oregon Supreme Court and the Court of Appeals should be reversed and the State of Oregon awarded the ownership of Fischer Cut (parcels 2A, 2B and 2C and a portion of parcel 3).

Respectfully submitted

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February, 1976

APPENDIX A

FLOOD PLAIN INFORMATION

WILLAMETTE RIVER
MARYS RIVER

CORVALLIS AND PHILOMATH
OREGON

PREPARED FOR
BENTON COUNTY, OREGON
BY
U. S. ARMY ENGINEER DISTRICT, PORTLAND
CORPS OF ENGINEERS, PORTLAND, OREGON
MARCH 1971

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(Omitted in printing)

TABLES

(Omitted in printing)

INTRODUCTION

This report describes the flood situation on Willamette River and Marys River in the vicinity of Corvallis and Philomath, Oregon. This information was requested by the Benton County Court, through the Oregon State Water Resources Board, to aid in the solution of local flood problems and the best utilization of lands subject to overflow. The report is based on rainfall and runoff records, past and future flood heights, and other technical data bearing upon the occurrence and size of floods in the study area.

This report covers two significant phases of the flood problem. First, it presents a record of the largest known floods of the past on Willamette and Marys River. Second, it discusses the probability and size of future floods.

Two sizes of future floods are considered particularly useful in planning for flood plain development. In this report, those floods are referred to as Intermediate Regional Floods and Standard Project Floods. Intermediate Regional Floods would occur on the average of once in 100 years. They are determined from an analysis of known floods on Willamette, Marys, and other rivers in the same geographical region having similar physical characteristics. A Standard Project Flood is one that would occur if the most severe combination of weather and run-off conditions that reasonably could be expected actually were to happen. It represents the reasonable upper limit of flooding. Both Intermediate Regional and

Standard Project Floods should be considered in planning for use of the flood plains.

The report contains flood plain maps, profiles, and cross sections which indicate the extent of flooding that has been experienced and that might occur in the study area. With that information the depth of probable flooding may be determined for any location in the study area.

The report does not include plans for the solution of flood problems. Rather, it is intended to provide a basis for further study and planning on the part of local governing bodies to minimize vulnerability to flood damages. This might involve local programs to control the type of use made of the flood plain through zoning and subdivision regulations, the construction of flood protection works, or a combination of the two approaches.

The Portland District of the Corps of Engineers will, upon request, provide technical assistance to Federal, State, and local agencies in the interpretation and use of the information contained herein and will provide other available flood data related thereto.

SUMMARY OF FLOOD SITUATION

The flooded area described in this report is located in the middle reach of Willamette River Basin and lies in Benton and Linn Counties. The principal urban developments in the study area are Corvallis and Philomath, with 1970 populations of 35,153 and 1,688, respectively. Willamette River is the principal stream in the area under study, with Marys River, Long Tom River, and Muddy Creek (Linn County) the major tributaries. This report describes the flood situation on: (1) Willamette River from the downstream end of Irish Bend at river mile 150.0 to the upstream end of Lower Kiger Island at river mile 125.0, and (2) Marys River from its mouth to Woods Creek at river mile 14.6.

Commercial, industrial, residential, and agricultural developments along Marys River have been flooded many times in the past and are within reach of the potentially larger floods of the future. The flood problem along Willamette River has been reduced by upstream storage projects. However, developments in the Willamette River flood plain are still within reach of the larger floods, similar in size to that of December 1964.

Streamflow records are the principal source of data used for this report. The U. S. Geological Survey has maintained stream-gaging stations on Willamette and Marys Rivers, and the National Weather Service has a stream gage on Willamette River at Corvallis. Residents along the streams have been interviewed and newspaper files and historical documents searched for information concerning past floods. From these investigations and

from studies of possible future floods on Willamette River and Marys River, knowledge of the local flood situation has been developed. The significant findings are summarized in the following paragraphs and are discussed in more detail in subsequent sections of this report.

* * *

THE GREATEST FLOOD known on Willamette River occurred in December 1861, before there was a stream-gaging network for recording flood heights. Based on high-water marks, it is estimated that Willamette River at Corvallis crested at 224 feet, m.s.l. The December 1964 flood was the greatest flood ever recorded on Marys River.

* * *

OTHER LARGE FLOODS on Willamette River occurred in 1890, 1901, 1909, 1923, 1943, 1945, 1948, 1953, 1955, and 1964. Flood control projects have been effective in preventing major catastrophies since 1940. Without upstream regulation the stage of the December 1964 flood would have been equal to that of the December 1861 flood.

* * *

INTERMEDIATE REGIONAL FLOODS which would occur on the average of once in 100 years were determined for Willamette and Marys Rivers. The magnitudes of those floods were obtained from analyses of flood records for those and other streams in the same general area. In future occurrences of an Intermediate Regional Flood on Willamette River, it will be possible

to control the stage in the study area to about 1 foot below the flood stage of December 1964, because flood control storage capacity has been added to the Willamette Basin reservoir system since 1964. The Intermediate Regional Flood on Marys River, where there is no upstream reservoir storage, would be slightly higher than the December 1964 flood.

* * *

STANDARD PROJECT FLOOD is defined as the largest flood that can be expected from the most severe combination of meteorological and hydrological conditions that could reasonably occur, excluding extremely rare combinations. A Standard Project Flood would be 5 to 7 feet higher than an Intermediate Regional Flood on Willamette River in the study area, and 2 to 6 feet higher on Marys River. Standard Project Floods should be considered in planning of any development in the flood plain.

* * *

FLOOD DAMAGES in the study area will be substantial even if floods no larger than past major floods were to occur. Even greater damages will be sustained should a Standard Project Flood occur, because of greater depths and higher velocities. Although flood heights along Willamette River have been reduced by upstream storage, construction of new developments within the flood plains increases the damage potential.

* * *

MAIN FLOOD SEASON for streams in Benton and Linn Counties begins in October and extends through April,

with the majority of the larger floods occurring in December and January. The larger floods are the result of widespread, heavy rains of 2 to 5 days' duration, augmented by snowmelt at a time when the soil is near saturation from prior rains. Frozen topsoil also will increase runoff and can contribute to the intensity of floods.

* * *

VELOCITIES OF WATER during major floods can reach 13 feet per second (about 9 miles per hour) in the main channel of Willamette River. Maximum velocities in the main channel of Marys River would be about 10 feet per second. Maximum velocities over the flood plain would be about 5 feet per second. Velocities greater than 3 feet per second, combined with depths of 3 feet or more, are considered hazardous.

* * *

DURATION OF FLOODS varies from 8 to 9 days on Willamette River and from 7 to 8 days on Marys River. Willamette River rises from its normal winter level to extreme flood peaks in 3 to 4 days, while Marys River reaches its peak in 2 to 3 days. During Intermediate Regional Floods, the average rate of rise on Willamette River is about 0.14 foot per hour, while Marys River rises at an average of 0.3 foot per hour.

* * *

HAZARDOUS CONDITIONS occur during large floods as a result of rapidly rising streams, high stream velocities, and deep flows.

FLOOD DAMAGE PREVENTION MEASURES. At present eight multiple-purpose storage projects in upper Willamette River Basin control the runoff from about one-half of the drainage area upstream from the study reach. One additional storage project is in the construction planning stage. Flood plain regulations are included in the comprehensive land use plan being prepared by Benton County. Several bank protection projects have been constructed and much debris has been removed from the channel of Willamette River in the study reach.

* * *

FUTURE FLOOD HEIGHTS that would be reached at selected locations if an Intermediate Regional or Standard Project Flood occurred are shown in table 1. Table 1 shows the comparison of those flood crests with the flood crests from the December 1964 flood.